



dry facts

...from Arctic India Sales

Oct. - Nov. - December - 1983

Vol. 3 No. 4

Season's
Greetings

A very Happy & Prosperous 1984 to all.
We take this opportunity to thank you
for your valued patronage & support.

Iskander

Padmavati Prasad

PK

Aswini

Anil

Ravi

K PETERS

D Z Hamz

Arshah

Krishnaiah

"Hospitality - Air-Bry Style"

The gracious city of Hyderabad, was the venue of the 35th Indian Pharmaceutical Congress between 18th—20th December, 1983. 2500 delegates from all over the country attended the well organized meet. Bry-Air (India) in the tradition of the Hyderabad culture hosted a cocktail party at their "Hospitality Suite" at Hotel Banjara on 18th—19th December. This occasion provided an opportunity for all the members of the Bry-Air team to renew old contacts and make new association with many members in the pharmaceutical trade.

The pharmaceutical industry have so far been the largest consumers of our dehumidification equipment. We are ever thankful to this industry for their continued support and encouragement received.

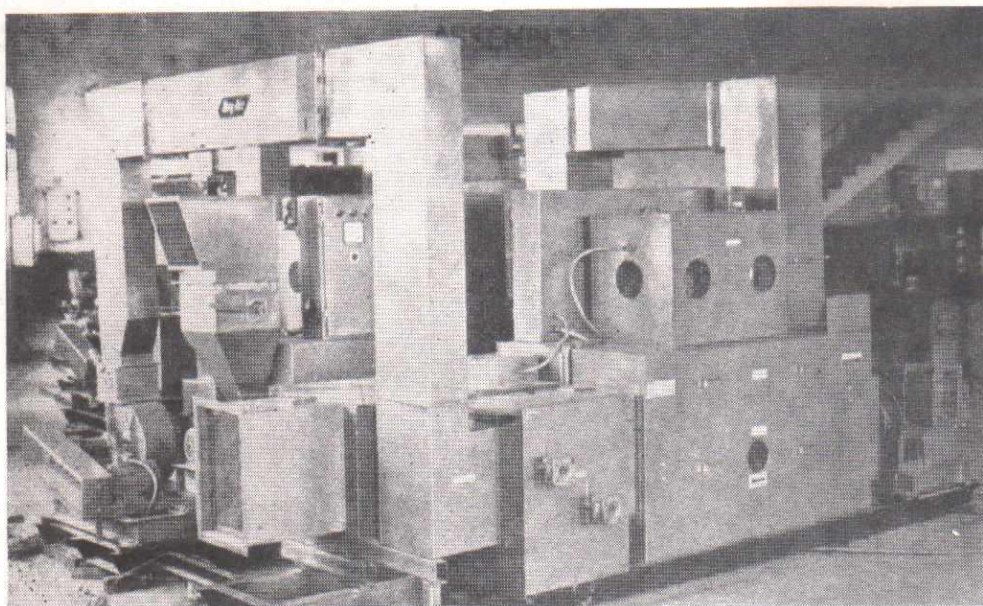
Sales Conference—1983

Our annual sales conference was held at Hyderabad this year. Our sales engineers from Bombay, Bangalore, Madras, Baroda, Hyderabad & Delhi attended the conference to discuss mutual problems & strengths. MVB the new generation dehumidifiers introduced by Bry-Air is now a reality. Design details & units selection procedures were discussed at length to facilitate selection of this system for forthcoming jobs. Heat Recovery systems were also discussed in detail to help select the right exchanger for the right job.

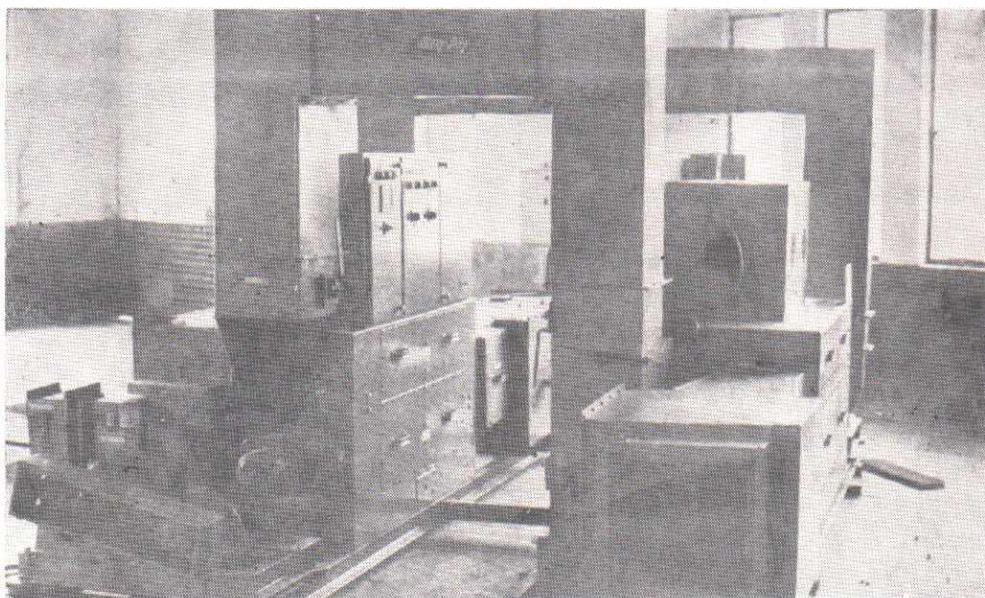
BRY - AIR EXPORTS

"Exports" is the magic word for a company of any size these days. Bry-Air Exports is well on its way to another year of increased export activity. A short list of recently received export orders are :

1. Square pharmaceuticals Bangladesh for 2 units of 300 cfm.
2. Olion Bangkok a 50 cfm unit.
3. Medicaps Bangkok—3000 cfm dehumidifier.
4. Pfizer Inc. — Philippines
5. Mead Johnson — Manila—one 150 cfm unit.
6. Bangladesh Pharmaceuticals—3 units of 300 cfm & one 150 cfm unit.



Pictured here are the two units which have been recently shipped out to Century Enka Ltd. The salient features of these two units are that they are cascaded systems which is another speciality of Bry-Air (India) Pvt. Ltd. The equipment is designed to depress the moisture from ambient dew point of 80°F to a dew point of 80°F.



Introducing



Mr. Ramesh Arora is our dynamic & enthusiastic new sales engineer. He joined our Delhi office in June 1983, and is giving wonderful support to our sales team.

Dehumidifying Grade Silicagel

Bry-Air has been in the field of dehumidification since the last three decades. We at Bry-Air understand the desiccant thoroughly. For many applications of drying out air/gas-to desired dew points we have now available with us a special dehumidifying grade of silicagel. The salient features of this type of silicagel now available with us is

1. High bulk density
2. Greater adsorption capacity as compared to any other commercial grade available as a result of this the attrition loss is minimum.

For further enquiries please write to
Bry-Air (India) Pvt. Ltd.
20, Rajpur Road, Delhi-110054.

SOME RECENT APPLICATIONS

Mahindra & Mahindra Bombay have taken a 300 cfm unit to provide low RH in their core storage room.

Processed glass is damaged by absorption of moisture unless relative humidity is controlled. Ponds Exports Ltd. at their Kodaikanal plant are using a 2000 cfm unit to maintain low RH in the glass processing area.

Lucas TVS Ltd. Madras are using a table top unit to dry sophisticated copper coils.

Toshiba Anand Batteries Ltd., Cochin are employing 150 cfm dehumidified air for powder coating for fluorescent lamp assembly.

Another 150 cfm unit is being despatched to WEBFIL-Calcutta to be installed in their Tungston filament & cathode manufacturing section of lamps & fluorescent tubes assembly.

In Pharmaceuticals E. Merck are using two 600 cfm units to maintain low RH in their tablet filling, inspection & coating area.

Blue Cross Labs. Bombay are using

2 table top units to maintain low RH in stripping and powder filling areas in their Nasik factory.

Richardson Hindustan Ltd. Bombay are maintaining low RH in their cough drops manufacturing area with 1500 cfm unit.

Hoechst Pharmaceuticals, Bombay to maintain the humidity level in the tablet punching area have two 1500 cfm units.

Lupin Laboratories are using the table top model for their sterile room & Boots Co. of India Ltd., Bombay use two table top models for their powder filling section.

German Remedies also use 2000 cfm unit on their tablet punching section.

IPCA Laboratories maintain low RH in their bulk filling, Ampicilin capsule & drying section. Besides we are glad to introduce Evelyn Lab-Delhi, Medico Pharma-Bombay, Madras Pharmaceuticals, Utkal, Lead Industries-Bhuvaneshwar, Southern

Capsulation-Madras, Ethico Drugs & Chemicals—Indore, Bombay Pharma Product—Indore, Jessy Pharma—Madras, UPDPL—Ludhiana, Wyeth Lab—Bombay & Glen Mark Pharmaceuticals—Bombay among our customer list from the Pharmaceutical Industry.

Ordinance factory - Bhandara have installed a table top unit in their spectrometer lab. similarly low RH conditions are maintained in their infra red section by National Physical Lab Delhi & in Electronic Microscope Lab by Sardar Patel University Baroda.

I.I.T Madras are using two 300 cfm units in their Semiconductor service Fabrication Lab & IIT Kharagpur use the table top model for their analytical instrument lab.

T.V. Tubes manufacturing unit at Bhuvaneshwar uses the 600 cfm unit.

Indodan Milk Products Ltd, Muzafarnagar use the 1500 cfm unit in their storage & packing area.

WHEN MOISTURE IS TORTURE !!!!!

In this column we will share with you regularly our experience on major application areas where usage of dehumidification equipment is both extensive and essential.

Introduction

Onion, to be successfully stored requires controlled low humidity. While every dehumidification problem needs investigation of over a dozen variables, for onion cold store, many of the variables can be standardized.

Bry-Air is an expert in temperature and humidity control and can provide a special environment needed for the successful storage of onion: however, it is assumed that the cold store owner would be directly more aware of physical aspects of onion, like handling, storage racks, pre-curing etc. which ultimately contribute to total owner's satisfaction.

If you already possess a cold store and would like to convert the same for onion, there is no major alteration anticipated in your existing refrigeration plant.

Storage Conditions

A comparatively low relative humidity is essential for the successful storage of dry onions. At humidities higher than those at which most other vegetables keep best, onions are disposed to root growth and decay; at too high a temperature sprouting occurs. As such storage at 32°F with a relative humidity between 65 to 70% i.e. a dew point of 23°F & 24°F or an absolute humidity of 17 to 18.5 gr/lb. is recommended to keep the onions dormant. Refrigerated storage is often used to hold onions for approx. six months. Onions to be held in cold storages should be placed there immediately after curing. The temperature of 32°F will keep onions dormant and reasonably free from decay, provided the onions are sound and well cured when stored. Sprout growth indicates too high a storage temperature, poorly cured bulbs, or immature bulbs. Root growth indicates too high relative humidity.

Storage Procedure

Onion should be adequately cured either in the field, in open sheds, or by artificial means before or in storage. The common method of curing should be natural or forced-ventilation. Onions are considered cured when the necks are tight and the outer scales are dried until they rustle. If not adequately cured, onions are likely to decay there is grey mold rot which occurs at the top of bulb (called neck rot).

Onions can be stored in 50 lbs. bags, in crates, in pallet boxes that hold about half ton of loose onions or in bulk bins.

Onions should not be store with other products that tend to absorb odors.

When onions are removed from storage in warm whether they are apt to sweat because of moisture condensation. This may favour decay. If onions are allowed to warm gradually this difficulty can be easily avoided.

Storage Capacity

The quantity of onion that can be stored will depend on whether onions are stored in bags, crates, or in Pallet boxes or in bulk bins. However, it would be prudent to work on the basis of between 90 to 110 cubic feet (cu. ft.) of space required per ton of onion.

Basis of Design

Maximum moisture load will occur in monsoons. The outside ambient in monsoon will differ for different parts of the world.

The temperature and relative humidity can occur in various combinations and generally do not result in excess of 165 gr/lb. for the tropics and as such for the purpose of design

157 grains/lb. should be taken in most cases.

Moisture load on the system to be removed by the dehumidifier is a sum of:

- Permeation as a result of vapour pressure difference between outside and inside.
- Door openings per hour
- Fresh air
- Conveyor openings
- Number of people
- Product load

In case of onion, except for permeation, all other loads are virtually non-existent.

Additional Refrigeration Tonnage Required

Though chemical dehumidifier is a constant enthalpy operation, some heat is being added to the air stream as a result of the dynamic energies of the dessiccant bed structure as it passes from one compartment to another. This is usually a small fraction of the installed refrigeration for the existing store and hence can be ignored in most cases.

Vapour Barrier Treatment

One of the factors directly affecting the permeation load is the vapour barrier. Any vapour barrier provided in a cold store will not eliminate the moisture but will only *retard* the rate of moisture ingress into the controlled space. The better the quality of the vapour barrier the lesser will be the permeation load resulting in a more satisfactory storage condition.

Quick Returns

Correct application will ensure an important contribution of humidity control for successful storage of onion and in most instances will enable recovery of first cost of the equipment within the first season itself.